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## **EVALUATING EQUITY IN FAIR VALUE ACCOUNTING**

### **Abstract:**

This paper discusses the results of the research problem evaluating equity in accounting. In principle, equity is a differential value, the difference of assets and liabilities and its value is derived from these elements, for each individual component of which the fair value is determined. However, accounting recognizes methodologically different equity evaluation as well. In a business combination, fair value of units can be determined through the fair value of equity financial instruments, the result of which may significantly be different from the valuation of equity through value of assets and liabilities. Moreover the accounting standards specifically provide guidance on measuring the fair value of the equity financial instruments, the quoted ones as well as those not quoted.

### **Keywords:**

Fair value measurement of equity, equity instruments, fair value of equity in business combination, noncontrolling interest

**JEL Classification:** M41

## 1. Introduction

Throughout the last few years many papers have been published on fair value measuring. It has become a crucial issue in the context of financial crisis, which is why many authors discuss the influence of fair value measurement on the value of equity instruments. For that reason, fair value measurement has come into focus again.

The aim of this paper is to discuss fair value measurement of equity instruments. The paper gives introduction into equity instruments valuation and the challenges that accounting is faced with in valuation of equity instruments.

Fair value accounting is not a new concept or recent phenomenon: "Asset valuations (for financial institutions) were at fair market value. It was not until 1938 that the Federal Reserve forced the other regulators to accede to historic cost accounting for banks' assets. The 1938...accounting change was made to encourage new lending and to enable private investors to acquire failed banks' assets from the federal authorities without immediate write downs of their value." (Todd, 2009, cited in Hanselman, 2009, p 4). Fair value is a questionable concept which is discussed in many academic papers. Many authors criticize that fair value basis rather than a historical cost basis accelerate the recognition of gains, particularly in periods of rising asset prices, on the other hand when asset prices are falling, air value markdowns are accelerating the decline. Economic dynamics, such as crises, competition or innovation, also affect the usefulness of accounting. These dynamics create complexities that potentially distort the relationship between current accounting measures and future performance or growth (e.g., Dichevand Tang, 2009, cited in Peek, 2011). Accounting was facing challenges in those periods, and through the last financial crisis, fair value of equity financial instruments became burning issue.

## 2. Fair Value in accounting

At the beginning of discussion, the question is what fair value is and how it can be defined.

In its pure form, fair-value accounting involves reporting assets and liabilities on the balance sheet at fair value and recognizing changes in fair value as gains and losses in the income statement (Laux, 2012, p. 3).

International Financial Reporting Standard 13 (IFRS 13, 2011) and Financial Accounting Standard 157 (FAS 157, 2010) both define fair value in the same way, as:

*The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (i.e. an exit price).*

International Financial Reporting Board and Financial Accounting Board harmonized those two standards, so those standards are similar and fair value has the same meaning in IFRSs and US GAAP, also IFRSs and US GAAP have the same fair value measurement and disclosure requirements (except for minor differences in wording and style).

Further on, accounting standards give meanings of the words used in fair value definition. Price in context of fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction in the principal (or most advantageous) market at the measurement date under current market conditions (i.e. an exit price) regardless of whether that price is directly observable or estimated using another valuation technique (IFRS 13, 2011).

According to ASC 820 Fair Value Measurement, when reporting entity first acquires an asset or incurs (or assumes) a liability in an exchange transaction, the transaction price is an entry price, the price paid to acquire the asset and the price received to assume the liability. Fair value measurement are not based on entry price, but rather on exit prices – the price that would be received to sell the asset or paid to transfer the liability (Flood J., 2014).

The reason for exit price as fair value price is obvious, it is because standards are written for users who will estimate their own assets or liabilities, and if they would sell their assets or transfer liabilities they will try to get best price for sure.

While entry and exit price differ conceptually, they may be identical and can be considered to represent fair value of the asset or liability at initial recognition, but this is the rare case. Even in assessing fair value at initial recognition the entity have to consider transaction specific factors and factors specific to the assets and liabilities that are being initially recognized. Examples of situation where transaction price might not represent fair value at initial recognition include:

- related party transaction, unless the entity has evidence that the transaction was entered into at marked terms,
- transaction taking place under duress or the seller is forced to accept the price, such as when the seller is experiencing financial difficulties,
- different units of account that apply to the transaction price and the assets or liabilities being measured. This can occur where the transaction price includes other elements besides the assets or liabilities that are being measured such as unstated rights and privileges that are subject to separate measurement or when the transaction price includes transaction costs ,
- the exchange transaction takes place in a market different from the principal or most advantageous market in which the reporting entity would sell the assets or

transfer the liability. It would be situation when the reporting entity is a securities dealer that enters into transaction with customers in the retail market, but the principal market for the exit transaction is with other dealers in the dealer market (Flood J., 2014).

Assets and liabilities in scope of fair value are considered through characteristics of the asset or liability. Such characteristics include, for example, the following: the condition and location of the asset; and restrictions, if any, on the sale or use of the asset (IFRS 13, 2011).

A fair value measurement assumes that the transaction to sell the asset or transfer the liability takes place either: in the principal market for the asset or liability; or in the absence of a principal market, in the most advantageous market for the asset or liability (IFRS 13, 2011).

The fair value of equity is directly related to the value of assets and liabilities. If the estimated fair value of net assets of entity is successful, the value of equity, calculated by any of the proposed methods in this paper, is authentic.

IFRS 13 (2011) explains three valuation approaches for fair value measuring and within those approaches different valuation techniques. Those approaches are the market approach, the cost approach and the income approach. The market approach uses price and other relevant information generated by market transactions involving identical or comparable assets. The income approach uses valuation techniques to convert future amounts (e.g. cash flows or income and expenses to a single present amount (Maino and Palea, 2012, p. 3). The cost approach is estimation of the possible cost to replace assets.

Also IFRS 13 (2011), defines the fair value hierarchy which gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1 inputs) and the lowest priority to unobservable inputs (Level 3 inputs). For instance when it is applied to financial instruments, the fair value hierarchy introduces three levels of inputs based on the lowest level of input significant to the overall fair value:

Level 1 – quoted prices for similar instruments

Level 2 – directly observable market inputs other than Level 1 inputs

Level 3 – inputs not based on observable market data (<http://www.iasplus.com>)

When Level 1 inputs are not available, models are used to determine fair value. Models have to use observable inputs (Level 2) that comprise quoted prices for similar assets and other relevant market data. If observable inputs are not available, then unobservable inputs, such as model assumptions, have to be used (Level 3) Laux (2012, p. 3). Those valuation techniques or models by IFRS 13 BC (2011)

include, for example, present value techniques, option pricing models or the multi-period excess earnings method.

Empirical testing of those three levels were made by Riedland Serafeim (2011), who researched whether information risk leads to higher cost of capital through asset-specific implied betas, focusing on financial assets reported at level 1, 2, and 3 fair values. They found that firms with greater exposure to more opaque financial assets, reflected in the level 3 fair value designation, exhibit a higher cost of capital, reflected in relatively higher implied asset betas. Overall, they concluded that greater exposure to more opaque financial instruments, reflected in the level 3 fair value designation, leads to higher information risk, and thus a higher cost of capital. Landsman (2006, p. 9), claims that having to rely on managers' model estimates of financial instruments' fair values introduces the general problem of informational asymmetry – i.e., managers have private information regarding appropriate values to select for model inputs as well the true underlying economic value of a financial instrument to the firm. Informational asymmetry creates two somewhat different problems, adverse selection and moral hazard. Laux (2012, p. 13) also argues that Level 3 fair values are subject to more model risk and larger information asymmetry and the assets are less liquid than Level 1 assets. Information risk depends not only on applied level but as Fiechter and Novotny-Farkas (2014, p.3) argue, higher stock market development, higher disclosure standards, and stronger information environment are likely to ensure that fair value information can be processed by capital market participants, and thus will be impounded in price. In contrast, in bank-based economies with less developed stock markets and weaker information environment, investors might have difficulties to properly process fair value information.

Previously presented problems in determining fair value are problems of evaluating assets and liabilities. Fair value definition does not mention equity. Equity is a differential value, the difference of assets and liabilities and its value is derived from these elements, for each individual component of which the fair value is determined. Exceptionally fair value of equity has to be evaluated in business combinations.

### **3. Influence of fair value measuring of equity**

If equity is conducted from fundamental accounting equation, then equity is assets minus liabilities, but what if that amount does not fit to market price of equity financial instruments, can the rest always be addressed to the goodwill?

Onesti and Romano (2012) made research about impact of the goodwill accounting on company results and equity in Italian listed companies. They came to conclusion that in the period 2005-2010: a decrease in market value of companies listed on the FTSE MIB, was approximately 60% (even considering the varied composition of companies included in the index), while the intensity of goodwill impairment was approx. 3.75%.

It is clear that goodwill accounting give the management the opportunity to mitigate effects of stock market crisis, but the knowledge of this fact raises the question of how to deduct fair value of equity. Whether this issue is discussed from investors' aspect or owners' aspect, the answer to the question should be the same. In the exposure draft of IFRS 13, the IASB proposed require an entity to measure the fair value of its own equity instruments from the perspective of a market participant that holds the instrument as an asset. This is because the issuer of an equity instrument can exit from a particular instrument only in case this instrument ceases to exist or should the entity repurchase it from the holder. The FASB agreed with that conclusion. (IFRS 13 BC, 2011). That approach will alleviate problem of own equity valuation. Barr (2012) argues about valuing equity ownership interests under the fair market value standard of value. Barr (2012) argues that the value to the holder standard of value is different from the fair market value standard of value, because of income taxation reasons. Valuation of equity is a sensitive topic because it directly affects business result. That is why the question of how to evaluate it at fair value is so interesting for discussion.

#### 4. Methods in Accounting of Investments

There are three possible methods in accounting of investments in equity financial instruments. The percent of the investee's outstanding stock purchased by the investor determines the degree of control that the investor has over the investee. This, in turn, determines the accounting method used to record the stock investment as shown in Table 1. (Warren, Reeve, Duchac, 2009, p. 662).

Table 1. Methods in Accounting of Investments

<b>Percent of Outstanding Stock Owned by Investor</b>	0<20%	20%<50%	50%<
<b>Influence</b>	Unsignificant	Significant	Control
<b>Accounting terms of investment</b>	Investments in equity instruments	Investments in associates	Investment in subsidiary
<b>Accounting Method</b>	Cost method	Equity method	Consolidation

Source: Made by authors

Each of the three possible types of investment in financial instruments implies different impact on the assessment of equity instruments.

If an investor holds less than 20% of investee, the evaluation was performed according to IAS 39, at fair value through profit or loss or in equity (depending in which category it is classified) (Petračić, 2013).

If the investor has 20%, and less than 50% of investee's shares, the investor has significant influence in the investee, or the investee is associated to investor. Inside of investor's financial statements, those shares should be evaluated in accordance with IAS 28, i.e. stated at cost, adjusted for later changes in net assets of the associate.

If the investor has more than 50% of investee shares or investor has a controlling influence in investee, investee needs to be consolidated. In financial statements of the investor, investee's shares should be stated at cost, in accordance with IAS 27 or IAS 39 (Petračić, 2013). Also International Financial Reporting Standard 3 Business Combinations, in combination with IFRS 10 Consolidated Financial Statements come into effect for business combinations (ECCB, 2012).

Stock investments in which the holdings are less than 20% are classified into two categories:

1. Trading securities.
2. Available-for-sale securities (Weygandt, Kimmel, Kieso 2014, p. 614)

This two categories have different way of reporting changes in fair value. Changes in the fair values of trading securities are reported as an unrealized gain or loss on the income statement. In contrast, changes in the fair values of available-for-sale securities are reported as part of stockholders' equity and, thus, excluded from the income statement (Warren, Reeve, Duchac, 2009, p. 671). Hence, for trading securities changes in valuation are reported as unrealized gain or loss on income statement through profit or loss as other income or loss, and result is affecting net income. Available-for-sale securities are reported as part of stockholders' equity, hence accumulated unrealized gain or loss is reported in stockholders' equity on the balance sheet and result is affecting comprehensive income.

The concepts of comprehensive income and other comprehensive income interact with the concept of equity. Comprehensive income, under a balance sheet approach, represents all the recognized changes in equity (net assets) of an entity from one reporting period date to the next that result from sources other than changes arising from investment by and distributions to owners. Other comprehensive income is a part of comprehensive income. Other comprehensive income is a component of equity (Bellandi, 2012).

Business combinations require individual reporting model for equity. Goodwill treatment relation with equity instruments is mentioned earlier. Business combination is a transaction or other event in which a reporting entity (the acquirer) obtains control of one or more businesses (the acquiree) (IFRS 3, 2008). In a business combination achieved without the transfer of consideration, the acquirer must substitute the acquisition-date fair value of its interest in the acquiree for the acquisition-date fair value of the consideration transferred to measure goodwill or a gain on a bargain

purchase (IFRS 3, 2008). Consolidation technique which is allowed by IFRS and US GAAP is the purchase method. Historically there have been two methods of consolidation: pooling and purchase. IFRS 3 has prohibited the use of the pooling method (Antill and Lee, 2008), also IFRS 3 has prohibited the amortization of goodwill. Instead there is value impairment of goodwill. Intention of those measures among other reasons was real disclosure of equity, but from previously mentioned Onesti and Romano (2012) research is visible that entities adjust goodwill almost in the same way as when it was amortized. The reason for that is that goodwill adjustment affects income statement. Hence, disproportion between decrease of fair equity value and fair goodwill value is still there.

## **5. Noncontrolling interest in a subsidiary – minority interest**

Noncontrolling interest in a subsidiary is an ownership interest in the consolidated entity that should be reported as equity in the consolidated financial statements. Previous then new standard IFRS 3, limited guidance existed for reporting noncontrolling interest. Minority interest was reported in the consolidated statement of financial position as liabilities, between liabilities and equity or as a part of equity. IFRS 3 requires reporting of minority interest as a part of groups' equity.

Value of noncontrolling interest can be evaluated according to fair value measurement or in proportion of subsidiary equity.

In proportional valuation of noncontrolling interest its value is determined very simply, with the percentage of ownership in the total value of subsidiaries. The fair value of subsidiaries' equity is determined as the difference between the fair value of assets and the fair value of liabilities. All adjustments between carrying value and fair value of assets and liabilities are allocated to controlling interest and noncontrolling interest. The value of consideration transferred of the controlling interest in subsidiaries belongs only to the controlling entity, and it is divided into the value of interest and goodwill or bargain purchase.

Should the method of fair value be employed, the generated goodwill is divided into controlling and noncontrolling interest as well, taking into account that the value assigned to the participants in equity remains proportional to the purchased shares. However, the value of subsidiaries' equity, shown at market value, is not equal to the difference in the fair value of its assets and liabilities, but it is increased by the total recognized goodwill shared between the controlling company and the noncontrolling interest.

### **1. Example – Evaluation of equity**

*The company Ante bought 70% of the company Mate (8.400 shares of a total of 12.000).*



The value of share in equity of the company Mate is calculated using the following methods:

1. Share in fair value of net assets
2. Share in fair market value of equity
3. Share in fair market value of equity corrected for controlling benefits

Table 2. Evaluation of share – equity according to the fair value of net assets

The fair value of the net assets Mate	120,000	
Paid for controlling interest		98,000
Goodwill		(14,000)
The value of the controlling interest 70%		84,000
The fair value of the net assets Mate	120,000	
The value of the noncontrolling interest 30%		<u>36,000</u>
<b>Total equity Mate</b>		<b>120,000</b>

Source: Authors' calculation

Table 3. Evaluation of share - equity according to the fair market value of equity

Paid for controlling interest -70%	98,000
The value of noncontrolling interest – 30%	42,000
<b>Total equity Mate</b>	<b>140,000</b>
Fair value of the net assets Mate	120,000
Total goodwill	20,000
Controlling interest's goodwill	14,000
Noncontrolling interest's goodwill	6,000

Source: Authors' calculation

Table 4. Evaluation of share – equity according to the fair market value of equity corrected for controlling benefits

The fair value of the net assets Mate	120,000
Paid for controlling interest – 70%	98,000
Fair value per share (120,000/12,000)	10
Paid value per share by taking control (98,000/8400)	11,67
The value of noncontrolling interest	22,000
The fair value per share of noncontrolling interest (22,000/3600)	6,11

*Source: Authors' calculation*

The authors believe that evaluation method shown in table 3 distorts the basic principles of accounting according to which the value of equity is defined as a residual value of assets and liabilities. If the value of equity is determined on the basis of its market value, which is, among other things, greatly influenced by the investors' expectations and supply and demand, its value will be shown subjectively. The question is how much informative value the investors get from the value of equity displayed in that way.

## **6. Conclusion**

The paper showed how to evaluate equity under fair value, and pointed out the difficulties of evaluating the fair value of equity. The paper dealt with two problems: goodwill evaluation and fair value when level 3 inputs are used. Those problems are recognized by boards that set standards, but there will always be the intention of using possibilities of accounting in personal interest. For better reliability of fair value hierarchy, especially level 3 inputs, efforts should be made towards higher stock market development, higher disclosure standards, and stronger information environment.

The modern approach to accounting brings into focus the fair value of all elements of financial reporting. Numerous techniques of measurement of elements of financial statements have been developed in accounting and the hierarchy of the fair value of assets and liabilities has been created.

Evaluation of equity instruments is the result of a more or less precise evaluation and the inputs included in the evaluation of assets and liabilities. Therefore the equity value of separate entities is defined and calculated as their differential size. However, in business combination accounting, one of the methods of equity measurement involves evaluating its fair value determined by the market value of equity instruments. The use of various standard methods results not only in different equity values, but also in different values of equity components, by introducing control over subsidiary as one of the factors of equity value.

The paper presented the calculation of equity value using various concepts of fair value, the result of which is substantially different equity value, depending on the method of equity evaluation used in business combinations. As this is an extremely sensitive area of evaluation, the method of equity evaluation should be harmonized at a global level.

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